
Claims

1. The heating value meter for gases, consisting of an outer mantle with
5 thermostatically controlled heating and with at least one inlet for air and the test
gas, and a measuring block placed inside the outer mantle, characterized
in, that outer mantle (10) is cylindrical, it is equipped with a heating mantle on its
outer surface (101) and its bottom part contains an outer sensor (102) of an
electrical long-distance thermometer of the outer thermostatic apparatus (2)
10 placed axially in the wall, and a measuring block (11) is also cylindrical with an
axial through-hole (113), it is located coaxially inside the outer mantle (10) and its
upper part is equipped with an axially inserted internal sensor (112) of an
electrical long-distance thermometer of the internal thermostatic apparatus (3),
while the heating mantle (101) and the outer sensor (102), and also the electrical
15 heating block (111) and the internal sensor (112), are interconnected via the
thermostatic apparatus (2, 3), adjusted for maintaining of a constant temperature
value by regulation of the input to the electrical heating block (111), or of the input
to the heating mantle (101) where, in addition, the measuring apparatus (31) of
the electrical input is connected to the electric lead to the electrical heating block
20 (111).

2. The heating value meter for gases, according to claim 1,
characterized in, that the outer mantle (10) and the measuring block
(11) are made from a metallic material.

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3. The heating value meter for gases, according to claims 1 and 2
characterized in, that ~~the outer mantle (10) and the measuring block~~
(11) are made from an alloy based on copper or aluminium.

4. The heating value meter for gases, according to claims 1 to 3, characterized in, that a gap exists between the outer surface of the measuring block (11) and the internal surface of the outer mantle (10), with a width equal to 0.3 to 3.0fold the outer diameter of the measuring block (11).
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5. The heating value meter for gases, according to claims 1 to 4, characterized in, that the overall cross-section of the outlets (104) for the flue gases equals 1.1 to 2.0fold the overall cross-section of the air inlet (103).
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6. The heating value meter for gases, according to claims 1 to 5, characterized in, that there are at least two air inlets (103) in the outer mantle (10) and that they are bored at an angle or are diverging from the longitudinal axis of the measuring block (11).
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7. The heating value meter for gases, according to claims 1 to 6, characterized in, that the electrical heating block (111) and/or the internal sensor (112) are placed in the measuring block (11) closer to its circumference than to its axial through-hole (113).
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8. The heating value meter for gases, according to claims 1 to 7, characterized in, that a cavity (114) is formed between the position of the electrical heating block (111) and/or the internal sensor (112), and the axial through-hole (113), and/or a shielding body (115) made of a thermally insulating matter is placed in the cavity position.
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9. The heating value meter for gases, according to claims 1 to 8, characterized in, that the internal thermostatic apparatus (3) is adapted for regulation of the electrical input to the electrical heating block (111), within a range from 5 to 50% of the heating capacity of the calibration gas
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- combusted in the meter (1).

10. The method of operation of the heating value meter constructed according to claims 1 to 9, characterized in, that first the calibration stage takes place involving introduction and combustion of a calibration gas with a precisely known heat of combustion in the meter (1), followed by measuring the temperature value at the internal sensor (112) and storing it in the memory of the measuring apparatus, followed by the measuring stage consisting of introduction and combustion of the test gas in the meter (1), with simultaneous measurement, by means of the measuring apparatus (31), of the electrical input to the electrical heating block (111) and maintaining, by means of the internal thermostatic apparatus (3), the temperature of the measuring block (11) measured at the internal sensor (112), at the same value as that determined and stored in the memory during the calibration stage, and the value of the heat of combustion of the test gas is determined from the difference between the heat of combustion value of the calibration gas and the value of the heating capacity of the electrical heating block (111), keeping the outer mantle (10) temperature at the same and constant value during the calibration and measuring stages.

11. The method of operation, according to claim 10, characterized in, that the calibration stage is repeated every 30 to 300 minutes during the measuring process.